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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,258	01/03/2002	Sylvain G. Fischer		3386
7590	12/18/2003		EXAMINER	
Janice Olyarchuk #50 Shrewsbury Park Ballsbridge Dublin 4, IRELAND			CONNELLY CUSHWA, MICHELLE R	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/036,258	FISCHER, SYLVAIN G.
<b>Examiner</b>	<b>Art Unit</b>	
Michelle R. Connelly-Cushwa	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on \_\_\_\_.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 1-3 and 8 is/are allowed.

6)  Claim(s) \_\_\_\_\_ is/are rejected.

7)  Claim(s) 4-7 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 03 January 2002 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a))

\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a)  The translation of the foreign language provisional application has been received.  
15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ . 6)  Other: \_\_\_\_\_ .

## **DETAILED ACTION**

### ***Drawings***

Six (6) sheets of formal drawings were filed on January 3, 2003 and have been accepted by the Examiner.

### ***Specification***

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

Claims 4-7 are objected to because of the following informalities:

Regarding claim 4; the claim ends with a semi-colon (;). All claims should end with a period (.).

Regarding claim 6; claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Additionally, claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 6 states "combining the methods claimed in claim 4 and claim 5" in line 2 of the claim. However, claim 5 depends from claim 4 and, thus, claim 5 inherently contains all of the limitations of claim 4. Therefore, claim 6 fails to further limit the invention.

Finally, claim 6 ends with a semi-colon (;). All claims should end with a period (.).

Regarding claims 5 and 7; the claims inherently contain all of the deficiencies of any base or intervening claims from which they depend. Claim 5 depends from claim 4 and claim 7 depends from claim 6.

***Allowable Subject Matter***

Claims 1-3 and 8 are allowed.

Claims 4-7 are objected to, but would be allowable if rewritten to overcome the objections set forth in the Office action.

The following is a statement of reasons for the indication of allowable subject matter: The prior art cited on attached form PTO-892 is the most relevant prior art known, however, the invention of claims 1-8 is allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious a method of shifting the resonance curves of an optical ring filter using the Kerr effect as defined in claim 1, comprising the steps of *increasing the optical intensity of the incident optical wave to one of the optical bus waveguides, causing a shift in the refractive index value of the ring due to the Kerr effect*, up to a working point where the resonant intensity of the optical wave remains large enough to maintain the shift of the value of the refractive index of the ring resulting in a shift of the resonance curves of the rings. Claims 2-8 depend from claim 1.

Lim et al. (US 2002/0090163 A1) discloses methods of altering the resonance of waveguide micro-resonators, including altering the refractive index with optical illumination to change the resonance of a micro-resonator cavity by controlling the intensity and the energy delivered to the micro-resonator from an optical fiber (402, see

Figure 4A) positioned above the resonator. Lim et al., however, does not teach or suggest increasing the optical intensity of the incident optical wave to one of the optical bus waveguides to cause a shift in the refractive index of the resonator ring, as required by the claims of the present application.

Paiam et al. (US 2001/0040681 A1) discloses ring resonators in Figures 12 and 13, wherein one bus waveguide (arm) of the device may be exposed to light of a suitable intensity and duration to yield a required refractive index change in the bus waveguide (arm) to permanently tune the device (see claim 12 and paragraph [0075] of Paiam et al.). Paiam et al., however does not teach or suggest increasing the optical intensity of the incident optical wave to one of the optical bus waveguides to cause a shift in the refractive index of the resonator ring, as required by the claims of the present application.

Hence, there is no reason or motivation for one of ordinary skill in the art to use the prior art of record to make the invention of claims 1-8.

### ***Conclusion***

This application is in condition for allowance except for the following formal matters:

Claims 4-7 are objected to for the reasons stated above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (703) 305-5327. The examiner can normally be reached 9:00 AM to 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on 703-308-4819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956.

*MRCC*  
Michelle R. Connelly-Cushwa  
Patent Examiner  
August 14, 2003

*Jala*  
AKM ENAYET ULLAH  
PRIMARY EXAMINER